

quarters. Mr. Grisdale kindly prepared an itinerary for my Canadian journey and the farms, institutions, &c., I should visit, and also gave me letters of introduction to prominent officers in institutions and Agricultural Departments throughout the provinces of the Dominion.

Following are the departments, institutions, farms, &c., visited by me in Canada: Department of Agriculture, Ottawa, Ontario; Central Experimental Farm, Ottawa, Ontario; Experimental Station, Cape Rouge, Quebec; Government Exhibit and Annual Fair, Quebec; Department of Agriculture, Toronto, Ontario; Government Exhibit and Canadian National Exhibit, Toronto, Ontario; the Ontario Agricultural College, Guelph, Ontario; Department of Agriculture, Winnipeg, Manitoba; Manitoba Agricultural College, Manitoba; Department of Agriculture, Regina, Saskatchewan; Department of Agriculture, Victoria, British Columbia.

Since my return to the Dominion I have been requested not only to report on the methods pursued in regard to agricultural experimental work in the United States and Canada, but also to report generally on my observations in regard to agriculture in these countries.

The States of America on the western slopes of the "Rockies," owing to their climatic conditions, present many problems in agriculture and the successful treatment of arid and semi-arid regions by means of irrigation. These are dealt with in this report at greater length than the eastern States because some of the conditions are similar to those obtaining in some as-yet undeveloped areas in New Zealand.

With regard to the eastern States and the institutions, beginning with the Agricultural College of Colorado and following on eastward to the Arlington Experimental Farm in Virginia, near Washington, D.C., it will only be necessary to deal with the experimental work being carried on at one institution—viz., that at Madison, Wisconsin—as the major portion is somewhat similar at all institutions.

AGRICULTURAL EDUCATION IN THE UNITED STATES.

There are over a hundred colleges (or schools) of agriculture in the United States. Nearly all colleges have agricultural experiment stations attached which co-operate with other educational efforts and movements, all seeking to standardize and build up country-life education. Agricultural secondary schools are connected with agricultural colleges of nearly forty States. Over eighty distinctly agricultural high schools of different types have been established since 1888, almost all of which are supported wholly or in part by State funds. In addition to these there are 289 public high schools receiving State aid for agriculture, and over 1,600 unsubsidized public and private high schools and academies are giving instruction in agriculture. A considerable number of privately endowed secondary institutions also give instruction in agriculture. Nearly two hundred State and county normal schools are undertaking to prepare young people to teach agriculture. In some States county agricultural high schools are equipped at the expense of the counties where they are located. In the State of Wisconsin these schools receive £800 annually to aid in paying running-expenses. In most States agriculture has been made a required study on a par with reading, arithmetic, history, and geography.

Agricultural extension departments in the agricultural colleges work in conjunction with farmers' institutes and boys' and girls' clubs, high schools, and associations of farmers for the promotion of agricultural college training. Extension work is that phase of instruction which is carried on among people who are not resident at an educational institution. The Department of Agriculture and State agricultural colleges have, during the past ten years, been developing special methods of agricultural work to make their knowledge and discoveries available to the farmers. The farmers' institute has expanded and become a part of the life of every agricultural community. Every year many thousands of farmers in the different States go for a day or a week's instruction and training. This work is promoted by and largely in the hands of the State Agricultural Departments. In 1914 farmers' institutes were carried on by State Departments of Agriculture in twenty-one States and by colleges of agriculture in twenty-seven States. Over 1,800 persons were employed as institute workers; 2,660,000 persons attended regular sessions of farmers' institutes; last year 112,498 persons attended movable schools of agriculture; and over a million people attended other meetings conducted by institute workers.

University Farm, Davis, California.

This farm is situated in latitude 39° N., at Davis, eighty miles distant from the university at Berkeley, and comprises 779 acres. The soil is typical of a great portion of the Sacramento Valley. It is considered one of the best general-purpose soils in the region, and is adapted to a wide range of crops. The mean annual rainfall amounts to 16.54 in., the greater part of which falls from the beginning of December to the end of March; very little rain falls from the beginning of May to the end of October. The farm is provided with buildings for instruction in practical agriculture and horticulture, including a commercial creamery, stock pavilion, horticultural building, cereal building, mechanical shops, buildings for horses, cattle, sheep, swine, and poultry, two dormitories, and a dining-hall. Instruction is given at the university farm to university students, university farm-school students, and to short-course students. Several divisions carry on extensive investigations, notably agronomy, animal husbandry, dairy industry, irrigation, and poultry husbandry.

At the time of my visit to instructional institutions throughout the United States the autumn vacation was on, and the presidents of the universities, as well as a number of the heads of divisions, were attending an agricultural conference at the University of California at Berkeley. At Davis I was unable to obtain much information regarding agricultural experiments, as the Professor of Field Husbandry was at the conference.

Cereals.—The cereal crops had been harvested some weeks before my visit, but I was given to understand that experiments on an extensive scale were carried on annually, including variety trial, fertilizer experiments, rotation experiments, and a number of special experiments. All